

ATTORNEY DOCKET NO.
071308.0684
2003P08721WOUS

PATENT APPLICATION

1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Eberhard Kull
Serial Number: Unassigned
Filed: March 7, 2006
Group Art: Unassigned
Examiner: Unassigned
Title: **ARRANGEMENT WITH AN INJECTION VALVE
AND A SLEEVE AS PRESSURE TRANSFER
MEANS**

MAIL STOP - PCT
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir or Madam:

PRELIMINARY AMENDMENT

Prior to the initial review of this national stage application referenced above by Eberhard Kull entitled "**ARRANGEMENT WITH AN INJECTION VALVE AND A SLEEVE AS PRESSURE TRANSFER MEANS**" filed March 7, 2006, please amend the application as follows:

Amendments to Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 6 of this paper.

CLAIM AMENDMENTS

WHAT IS CLAIMED IS:

This listing of the claims will replace all prior versions, and listing, of claims in the application:

1. (Currently Amended) An arrangement with an injection valve-(7) ~~with comprising~~ a nozzle body-(8), which is disposed in a hole drilled-(2) in a cylinder head-(1) of an internal combustion engine-(22), ~~with the wherein the~~ hole-(2) ~~opening opens~~ out into a combustion chamber-(21) of the internal combustion engine-(22), ~~with wherein~~ a bearing surface of the injection valve-(7) ~~being is~~ pretensioned against a bearing surface of the cylinder head-(1) and the hole-(2) ~~being is~~ sealed, ~~with wherein~~ the nozzle body-(8) ~~being is~~ disposed between the sealed bearing surfaces and the combustion chamber-(21)

~~characterized in that, and wherein~~
a sleeve-(13) is arranged between the nozzle body-(8) and the cylinder head-(1) in the hole-(2), a pressure sensor-(16) is mounted in the hole-(2) and the sleeve-(13) is provided as a means of translation between the pressure in the combustion chamber-(21) and the pressure sensor-(16).

2. (Currently Amended) An arrangement in accordance with claim 1, ~~characterized in that wherein~~ a lower end-(14) of the sleeve-(13) is assigned to the combustion chamber-(21), ~~that~~ an upper end-(15) of the sleeve-(13) lies against the pressure sensor-(16), and ~~that wherein~~ the sleeve-(13) is disposed to allow movement in the hole-(2).

3. (Currently Amended) An arrangement in accordance with claim 2, ~~characterized in that wherein~~ the pressure sensor-(16) is retained on the injection valve-(7) and ~~that~~ the upper end-(14) is embodied in the form of an annular flange-(17), ~~that~~ the flange-(17) is disposed between an annular surface-(5) of the cylinder head-(1) and the pressure sensor-(16).

4. (Currently Amended) An arrangement in accordance with claim 3, ~~characterized in that wherein~~ the pressure sensor-(16) is surrounded by a sealing ring-(18), ~~that and~~ the sealing ring-(18) is tensioned between the injection valve-(7) and the cylinder head-(1) and seals the hole-(2).

5. (Currently Amended) An arrangement in accordance with ~~one of the claims 1 to 4~~claim 1, ~~characterized in that wherein~~ the pressure sensor-(16) features a piezoelectric sensor element.

6. (Currently Amended) An arrangement in accordance with ~~one of the claims 1 to 5~~claim 1, ~~characterized in that wherein~~ the sleeve-(13) is guided into the edge area of the hole-(2) adjoining the combustion chamber-(21).

7. (Currently Amended) An arrangement in accordance with ~~one of the claims 1 to 6~~claim 1, ~~characterized in that wherein~~ the sleeve-(13) is covered at least partly on its outer and/or inner surface by a coating-(19) which makes contamination more difficult.

8. (Currently Amended) An arrangement in accordance with one of the claims 1 to 7~~claim 1, characterized in that wherein~~ the sleeve ~~(13)~~ is covered at least partly on its outer and/or inner surface by a coating ~~(19)~~ which reduces friction.

9. (Currently Amended) An arrangement in accordance with one of the claims 1 to 8~~claim 1, characterized in that wherein~~ the pressure sensor ~~(16)~~ has an annular form and surrounds the nozzle body ~~(8)~~.

10. (NEW) An injection valve comprising
a nozzle body, which is disposed in a hole drilled in a cylinder head of an internal combustion engine,
a bearing surface of the injection valve being pretensioned against a bearing surface of the cylinder head in such a way that the hole is sealed, wherein the nozzle body is disposed between the sealed bearing surfaces and the combustion chamber,

a sleeve arranged between the nozzle body and the cylinder head in the hole, and

a pressure sensor mounted in the hole, wherein the sleeve is provided as a means of translation between the pressure in the combustion chamber and the pressure sensor.

11. (NEW) An arrangement in accordance with claim 10, wherein a lower end of the sleeve is assigned to the combustion chamber, an upper end of the sleeve lies against the pressure sensor, and wherein the sleeve is disposed to allow movement in the hole.

12. (NEW) An arrangement in accordance with claim 11, wherein the pressure sensor is retained on the injection valve and the upper end is embodied in the form of an annular flange, the flange is disposed between an annular surface of the cylinder head and the pressure sensor.

13. (NEW) An arrangement in accordance with claim 10, wherein the pressure sensor is surrounded by a sealing ring, and the sealing ring is tensioned between the injection valve and the cylinder head and seals the hole.

14. (NEW) An arrangement in accordance with claim 10, wherein the pressure sensor features a piezoelectric sensor element.

15. (NEW) An arrangement in accordance with claim 10, wherein the sleeve is guided into the edge area of the hole adjoining the combustion chamber.

16. (NEW) An arrangement in accordance with claim 10, wherein the sleeve is covered at least partly on its outer and/or inner surface by a coating which makes contamination more difficult.

17. (NEW) An arrangement in accordance with claim 10, wherein the sleeve is covered at least partly on its outer and/or inner surface by a coating which reduces friction.

18. (NEW) An arrangement in accordance with claim 10, wherein the pressure sensor has an annular form and surrounds the nozzle body.

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6

REMARKS

Applicant requests the Examiner enter the above amendments prior to examination of this application. Applicant respectfully submits that the amendments are supported by the specification and add no new matter. Early and favorable acceptance of this national stage application is respectfully requested.

Applicant believes no fees are due at this time; however, the Commissioner is hereby authorized to charge any fees required to effectuate this filing to Deposit Account No. 50-2148 of Baker Botts L.L.P.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicant's attorney, Andreas Grubert, at 512.322.2545.

Respectfully submitted,
BAKER BOTTs L.L.P.
Attorney for Applicant



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Date: March 7, 2006

SEND CORRESPONDENCE TO:

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